



EFDLANT COMMISSIONING STANDOWN FEB. 5 & 6, 2003

DALTS/ACATS/TABS UPDATE

- EXPERIENCES
- PROBLEMS
- SUCCESS STRATEGY
- RECOMMENDATIONS

PRESENTED BY: ROGER T. HILLERS, P.E.
CODE: CI52RH
757-322-8406
DSN: 262-8406





CI52 TABS/ACATS Staff



Roger Hillers, P.E.	Lead Mechanical Engineer	322-8406
Jim Ewing, P.E.	Senior Mechanical Engineer	322-8419
Doug Taylor, P.E.	Mechanical Engineer	322-8434



TABS PROGRAM DESCRIPTION

Testing, Adjusting, Balancing and Start-up (TABS)

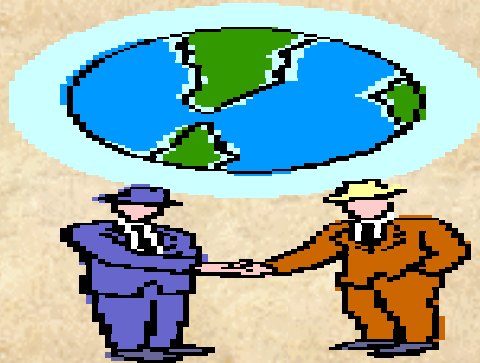
Is an organized, systematic work effort for completing the installation of Heating, Ventilating, and Air Conditioning (HVAC) systems. This work effort is intended to accomplish two (2) critical goals: first, to properly balance air and water flow rates for all associated piping/duct systems. Second, to evaluate the installed HVAC systems to assure that the performance level intended by the design has been attained.

WHY we do what we doHistory

GOAL —————> Customer Satisfaction

- ✱ Malfunctioning Bldg HVAC and leaking Roofs were major complaints reported in the 1979 NAVFAC Customer Survey
- ✱ We had little or no HVAC Quality Assurance
- ✱ TAB Group formed to meet the need: CUSTOMER SATISFACTION
- ✱ Since then
 - An improved delivered product: Less HVAC Complaints?
 - Expanded SPEC'S: Use of private sector spec's NEBB & AABC
 - Expanded Training
 - Expanded Certifications: Pre-Tests, Pre-requisites check lists, Contractor Qualification Certifications
 - Inspections and Verifications

AREAS SUPPORTED



COMPONENT

NO. FIELD OFFICES

LANT HQ	11
EFA CHES	7
EFA NORTHEAST	7
EFA MED	8
OICC NAPLES	1

DEPARTMENT OF THE NAVY

TELEPHONE NO

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

(804) 444-9878
(AV) 564-9878
IN REPLY REFER TO:

LANTNAVFACENGCOMINST 4330.51 CH-1
05

27 NOV 1989

LANTNAVFACENGCOM INSTRUCTION 4330.51 CHANGE TRANSMITTAL 1

From: Commander, Atlantic Division, Naval Facilities Engineering Command

Subj: TESTING, ADJUSTING, BALANCING, AND START-UP (TABS)/AUTOMATIC CONTROLS
ACCEPTANCE TESTS (ACATS) ON CONSTRUCTION CONTRACTS

Encl: (1) New Page Numbers to Enclosure (1) of the Basic Instruction - 3, 4
and 5

1. Purpose. To issue change transmittal 1 to enclosure (1) of the basic instruction.
2. Action. In enclosure (1) of the basic instruction, remove page numbers 3, 4 and 5 and insert new pages provided by enclosure (1).
3. Cancellation. Upon completion of required action.


J. B. LEAP
Vice Commander

Distribution: (5216.10L)
Part I
Lists A, C, D, F

Copy to:
Part IV
List H (only 1)

Stocked: LANTNAVFACENGCOM (Code 0112)

Quality Performance...Quality Results

DEPARTMENT OF THE NAVY
ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
NORFOLK, VIRGINIA 23511-6287

TELEPHONE NO
(804) 444-9878
(AV) 564-9878
IN REPLY REFER TO:

LANTNAVFACENGCOMINST 4330.51
05

30 SEP 1988

LANTNAVFACENGCOM INSTRUCTION 4330.51

From: Commander, Atlantic Division, Naval Facilities Engineering Command

Subj: TESTING, ADJUSTING, BALANCING, AND START-UP (TABS)/ AUTOMATIC
CONTROLS ACCEPTANCE TESTS (ACATS) ON CONSTRUCTION CONTRACTS

Encl: (1) TABS/ACATS GUIDE FOR ROICC'S - AUGUST 1988

1. Purpose. To provide policy and promulgate guidance on administering TABS/ACATS.

2. Scope. This instruction pertains to the Atlantic Division, Naval Facilities Engineering Command and its field offices. OICC MED shall establish similar procedures for field offices under their cognizance.

3. Background. Historically, the Command has experienced a high incidence of customer complaints pertaining to Heating, Ventilating, and Air Conditioning (HVAC) systems installed under construction contracts. Most of these complaints can be attributed to allowing beneficial occupancy of facilities prior to completion of the HVAC testing/system commissioning work effort. Establishing the beneficial occupancy date (BOD) prior to completion of testing/evaluations has maximized the risk of not discovering and correcting substandard system performance prior to facility turnover. Enclosure (1) provides policy guidelines and procedures for commissioning of HVAC systems prior to facility BOD.

4. Stocked by. Additional copies of TABS/ACATS GUIDE FOR ROICC's - AUGUST 1988 may be obtained from LANTNAVFACENGCOM Code 0531.



J. D. LEAP
Vice Commander

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Part I
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QUALITY PERFORMANCE...QUALITY RESULTS

TABS/ACATS GUIDE FOR ROICC'S

AUGUST 1988

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VII. ROICC RESPONSIBILITY FOR ADMINISTERING TABS

- a. TABS/ACATS contractual requirements will be reviewed during the pre-construction conference.
- b. Where required by the contract, a pre-TABS meeting will be conducted to ensure that the TABS supervisor has a complete understanding of the TABS requirements. Submittal requirements, work schedule, and quality control will be discussed.
- c. A designated ROICC representative will monitor all submittal/test requirements to assure that the contractor complies with the contract requirements in a complete and timely manner.

ROICC RESPONSIBILITY FOR ADMINISTERING TABS

(CONTINUED)

- d. All TABS/ACATS testing will be completed prior to BOD of a facility. There is one (1) exception. For those contracts requiring TABS reports for heating and cooling seasonal extremes, all ACATS testing and Season I of the TABS will be completed prior to BOD of a facility. Season II will be completed prior to contract close-out.
- e. The ROICC's designated representative will verify that the contractor has included testing/inspections for the TABS/ACATS as a separate cost line item in the submitted Schedule of Prices.

VII. RESTRICTIONS ON ROICC ACTIONS

- a. TABS/ACATS testing or inspections which are included in the contract will not be deleted unless prior formal approval has been obtained from LANTNAVFACENGCOM Construction Division, Code CI5.
- b. TABS/ACATS testing or inspections will be completed in total prior to BOD. The one (1) exception is for those contracts requiring TABS reports for heating and cooling seasonal extremes. BOD prior approval has been obtained from LANTNAVFACENGCOM Construction Division Director, Code CI5.



DEPARTMENT OF THE NAVY

ATLANTIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
1510 GILBERT ST
NORFOLK, VA 23511-2699

TELEPHONE NO.

(757) 322-8000

IN REPLY REFER TO

4330

Code 00

19 OCT 2001

From: Commander, Atlantic Division, Naval Facilities Engineering Command
To: Distribution

Subj: SUPPORT FOR TESTING, ADJUSTING, BALANCING & START-UP (TABS)
OF MECHANICAL SYSTEMS AND ASSOCIATED AUTOMATIC
CONTROLS ACCEPTANCE TESTS (ACATS)

Ref: (a) LANTNAVFACENGCOMINST 4330.51
(b) TABS/ACATS Handbook dtd 5 Oct 99

Encl: (1) LANTNAVFACENGCOM Code 05 memo of 15 Oct 98


1. Although I continue to receive many compliments on our facility construction efforts, I am concerned that we are turning over these facilities to our customers without proper mechanical system commissioning. Specifically, the TABS and ACATS requirements, including specified periodic submittals, do not appear to be getting the attention they should during the construction process. Consequently, in some cases, Navy operations are disrupted, building occupants become dissatisfied and inconvenienced and the Navy ends up spending more money, often in an occupied facility, correcting problems.

2. Although I am certainly committed to providing completed facilities to our customers on time, facility turnover must be accomplished with properly tested and completed mechanical systems. In this regard, I wholeheartedly endorse the guidance provided in references (a) and (b) and want all of our offices to follow the initiatives outlined in enclosure (1).

3. For many years the Atlantic Division has led NAVFAC in the implementation of aggressive TABS/ACATS verification procedures and these efforts have paid dividends to our customers when the facility was turned over for their use. I want to be sure that we do not digress in this important area and that we strive to ensure that mechanical system verification is completed prior to occupancy except in those rare cases where it may not be possible. In this regard, I want each of you to ensure that your quality assurance staffs are totally familiar with the TABS/ACATS requirements in the

**Subj: SUPPORT FOR TESTING, ADJUSTING, BALANCING & START-UP (TABS)
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CONTROLS ACCEPTANCE TESTS (ACATS)**

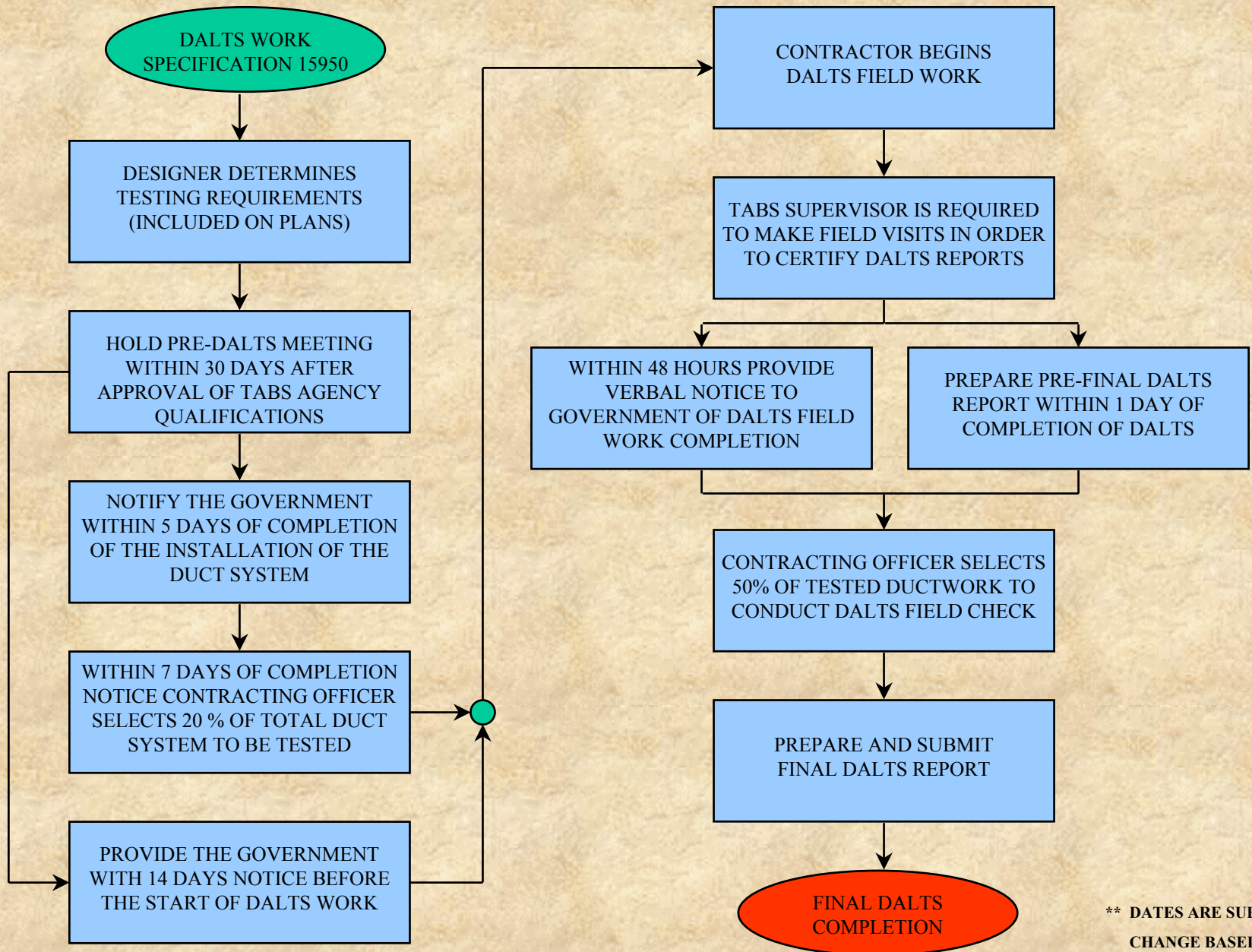
contracts as well as the Handbook that has been prepared on this subject, which is located in the Construction section of the Norfolk HQ portion of the Atlantic Division web page. More effort in this vital area will make a substantial difference to our customers.



R. L. PHILLIPS

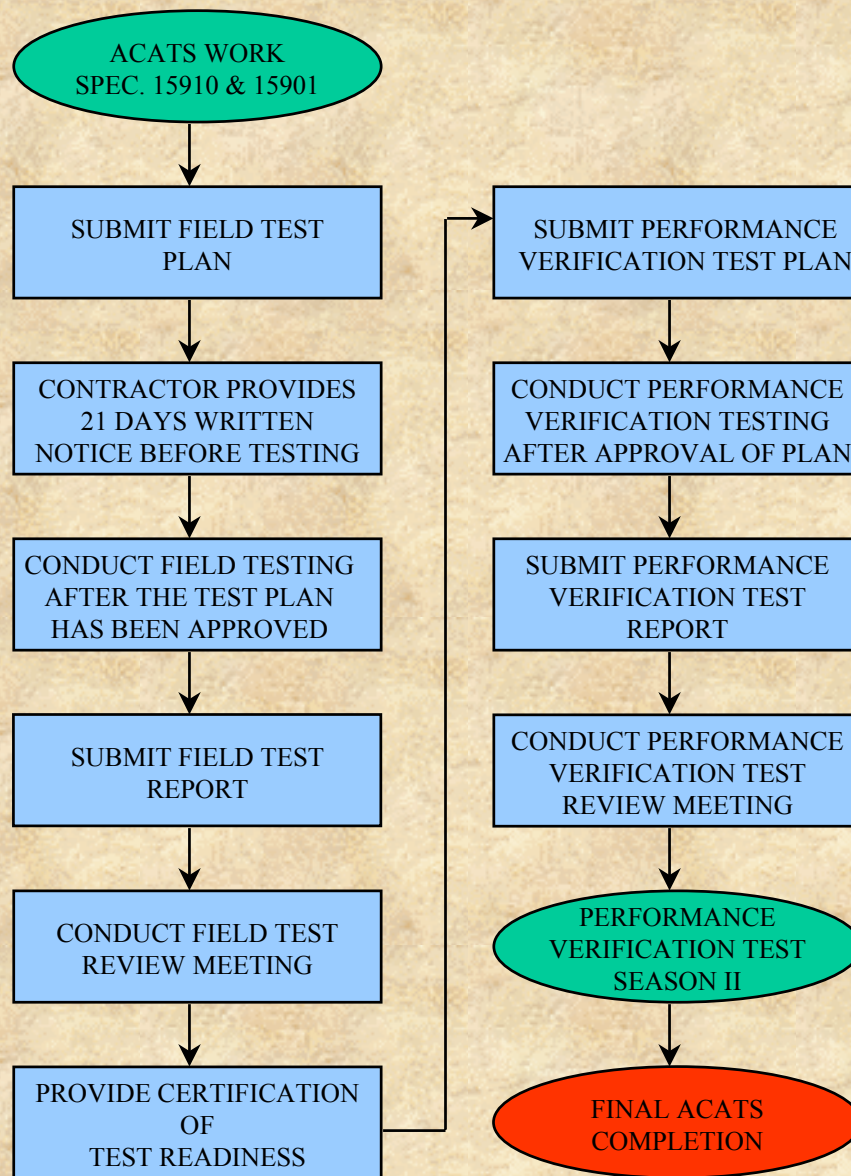
Distribution:

**ENGFLDACT CHES
ENGFLDACT MED
ENGFLDACT NORTHEAST
OICC NAPLES
ROICC CAMP LEJEUNE
ROICC CHERRY POINT
ROICC LITTLE CREEK
ROICC NORFOLK
ROICC NORFOLK NAVAL SHIPYARD
ROICC OCEANA
ROICC YORKTOWN
ROICC AZORES
ROICC GUANTANAMO BAY
ROICC KEFLAVIK
ROICC PRA**

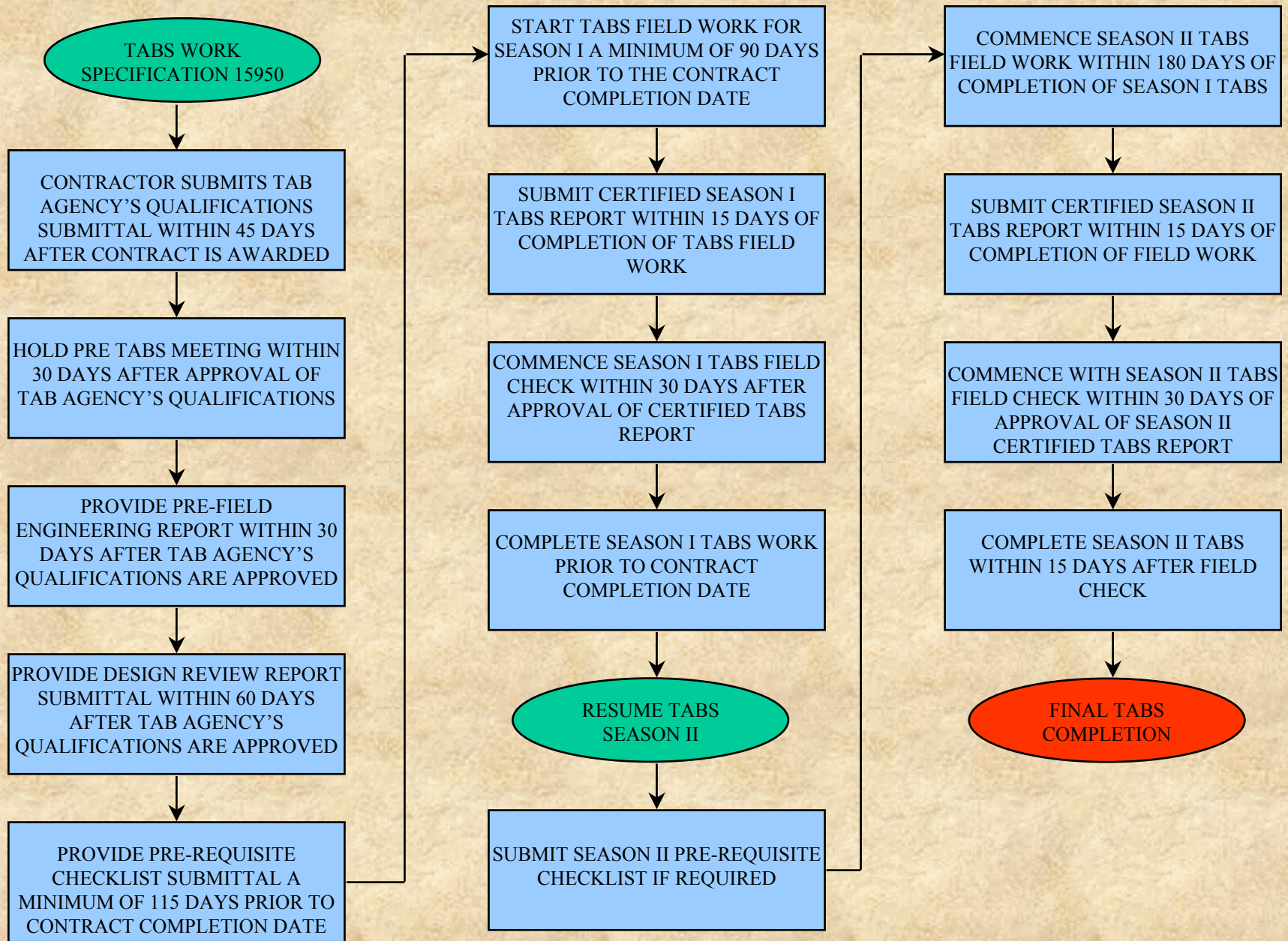


DALTS OVERALL PROCESS

** DATES ARE SUBJECT TO
CHANGE BASED ON
SPECIFIC CONTRACT
REQUIREMENTS



ACATS OVERALL PROCESS - SEASON I/II



TABS OVERALL PROCESS

**** DATES ARE SUBJECT TO CHANGE BASED
ON SPECIFIC CONTRACT REQUIREMENTS**

Difficulties in Conducting DALTS/ACATS/TABS Verification after Acceptance

- 1) Furniture/equipment in the way
- 2) Constant disruption with doors being opened and closed
- 3) Ceilings get removed to run cables which does not allow for proper HVAC tests.
- 4) Prime contractor loses interest as he is “off the hook”, time wise.
- 5) ROICC offices lose interest, as they are fighting new “fires”
- 6) Activity mission issues that can not be disrupted
- 7) Corrective action becomes difficult/impossible in occupied space for mission essential facility. Historically, most items found do not ever get corrected.
- 8) Time to conduct verification with obstacles indicated above generally doubles or triples.
- 9) The Activity has the key.
- 10) Security issues i.e. (you need an escort, you are a civilian, etc.)

FY 03 IMPROVEMENT INITIATIVES

- ✱ DALTS/ACATS/TABS Handbook updated on Construction Web page.
- ✱ Training provided to all Field Offices. Some training provided in person, some via VTC and some by training tapes. A copy of the training tapes have been provided on the intranet.
- ✱ DALTS/ACATS/TABS workshop conducted. Attendees included contractors, subcontractors, testing agencies, A & E's, and ROICC/EFD/EFA representatives.
- ✱ DALTS/ACATS/TABS seminar conducted for Prime Contractor's in the Hampton Roads area. Second session planned for North Carolina Prime Contractor's in March 2003.

FY 03 IMPROVEMENT INITIATIVES

(continued)

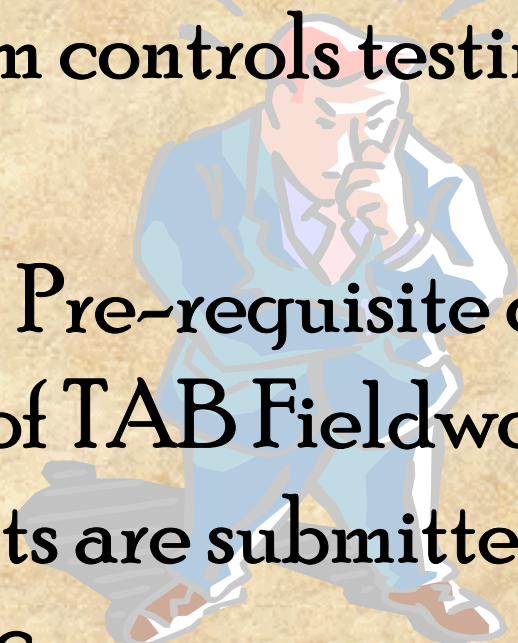
- ✱ Spot training on new AROICC's and CONREPS
- ✱ Continuing Guide Specification Revisions
- ✱ Liaison with the Mechanical Design & Specification branches
- ✱ TAB/ACAT training & placement of a TAB advocate in field offices.
- ✱ Input of TAB agents, mechanical contractors regularly sought to improve the TAB/ACAT process.

CONTINUOUS PROBLEMS

- ✱ Late Submittals.
- ✱ Submittals sent to the wrong reviewer.
- ✱ Approval of TAB & ACAT submittals by A/E
- ✱ Failure to resubmit items disapproved in a timely manner or not at all in some cases.
- ✱ Incomplete submittals – need to read the specification, e.g.- Controls Test Plan.

CONTINUOUS PROBLEMS

(CONTINUED)

- 
- ✱ Failure to perform controls testing prior to requesting PVT.
 - ✱ Failure to submit Pre-requisite checklist prior to commencement of TAB Fieldwork. In some cases falsified checklists are submitted.
 - ✱ Incomplete TABS reports are submitted and many are not certified.

CONTINUOUS PROBLEMS

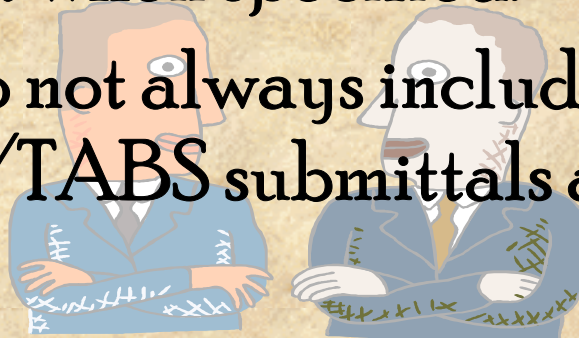
(CONTINUED)

- ✱ TABS fieldwork done outside of specified summer or winter conditions.
- ✱ BOD without prior LANTDIV approval at start and completion of the DALTS/ACATS/TABS process.
- ✱ Submittals sent to A & E when LANTDIV specified.
- ✱ A/E approval of deviations & approval of submitted components that do not meet the specifications.
- ✱ Field office approval of deviations that are improper or deviate from the design guidance that preclude HVAC dependability.

CONTINUOUS PROBLEMS

(CONTINUED)

- ✱ Failure to utilize Field Office Tab Advocates to surveil all projects: Loaded up with CONREP duties.
- ✱ Failure to conduct Pre-DALT/TAB meeting specified or failure to conduct when specified.
- ✱ Submittal logs do not always include DALT/ACATS/TABS submittals and logs frequently are not updated.
- ✱ Schedules frequently do not include DALTS/ACATS/TABS activities or verification activities.
- ✱ Failure to conduct DALTS prior to duct insulation.



CONTINUOUS PROBLEMS

(CONTINUED)

- ✱ Unrealistic Construction Duration in Contract.
- ✱ “Orders”.
- ✱ Failure of the Contractor/Subs to read the Specs.
- ✱ Failure of the AROICC or CONREP to read the Specs.
- ✱ Failure of Contractor to follow-up with resubmittals of submittals that are “D” resubmittals
- ✱ Scheduling/Notification of tests not requested given per specifications.

ACTIONS WE SEE LEADING TO SUCCESS

- ✱ TIMELY PRE-DALT/TAB MEETING
- ✱ COMMUNICATION/COORDINATION
- ✱ TIMELY SUBMITTALS
- ✱ SUBMITTAL STATUS SURVEILLANCE
- ✱ TIMELY REQUEST OR INSPECTIONS & VERIFICATIONS
- ✱ CLARIFICATIONS SOUGHT EARLY & RESPONSES OBTAINED: USE OF RFP'S
- ✱ SCHEDULE COORDINATION WITH OTHER TRADES
- ✱ JUDICIOUS USE OF PRE-REQUISITE CHECKLIST
- ✱ ON TIME SUBMITTAL OF THE TAB AGENCIES DESIGN REVIEW REPORT
- ✱ ALL DALT, TAB & ACATS ACTIVITIES ON THE CONSTRUCTION SCHEDULE

RECOMMENDATIONS FOR FIELD OFFICES

- ✱ Make TAB/ACATS related surveillance the #1 priority of the ROICC office TAB advocate.
- ✱ Use training video for each new CONREP, AROICC, and SGE that has not attended the training.
- ✱ Emphasize the availability of the ROICC TAB/ACAT handbook.
- ✱ Use TAB and ACAT milestone schedule with dates for each contract that requires TAB/ACATS.

RECOMMENDATIONS FOR CONTRACT MODIFICATION AND ADMINISTRATIVE ACTIONS

- ✱ Use compliance notices, cure/show cause notices for TAB/ACATS activities that are not accomplished per contract schedule requirements
- ✱ Step up meetings with corporate head when compliance slips or is not corrected.
- ✱ Enforce CLD via LD'S
- ✱ Contractor evaluations: UNSAT performance documented
- ✱ Less bending of advanced notice requirements, e.g., If 2 weeks notice is required, for inspection/verification activities, make the contractor aware that he will wait and the inspection/verification will not take place unless convenient to the government.

Questions?

